# ``Physics Tables'' for Commissioning Run -- TDWG

- TDWG collected information from detector groups during CDFWEEK
  - How much zero-bias data do you need?
  - Do you want any specially triggered datasets?
  - Do you want an special runs?
- Thanks to participating groups:
  - Muons, Muon-trig, Calo, Calo-trig,COT, CLC, XFT, XTRP,FE elec.,SVX, Alignment, L2 Trig, Trig supervisor, DAQ, L3, Trigsim, QCD, other ideas

# Typical Requests

- Not a huge amount of zero-bias requested
  - Too sparse to calibrate/check detectors
  - Preferred single towers, stubs, tracks to make sure there is some useful energy in event
- We have put together three tables based on requests
- Tables can also be used with little or no modifications for special running conditions
  (*e.g.* 36x1, no B field etc., high rate)

  Young-Kee will summarize those requests in her talk.
- Read out all Trigger diagnostic banks

# Table 1 -- zero bias only

- Summary
  - 20--50 Hz zero-bias
  - Possibly add a L3 stream based on CLC E*W coincidence
- We will probably soon get bored of this table because either:
  - luminosity is too low (no interactions); need some minimal bias
  - luminosity is too high; would prefer to select those events with more particle production
- Will be useful for checking CALO timing before going to table #2 (expect to be OK from cosmic run)

# Table 2 -- Minimal bias

- Summary
  - L1:
    - 5 Hz zero bias -- stream 1
    - 5 Hz minimum bias (CLC E*W coincidence) -- stream 2
    - 1 GeV (HAD+EM) tower anywhere (N.B. If single PMT spikes are a problem -- we will know soon -- then we will change this to two towers) -- stream 3
    - Loose CMU, CMP, CMX IMU -- stream 4
  - L2: tagging but auto-accept
  - L3: auto-accept, but split into streams as above
- This table is fine at L~$10^{29}$

# Table 3 -- More advanced

- Summary -- works through $10^{31}$ (Mariner Max)
  - L1:
    - 1 Hz zero bias -- stream 1
    - 1 Hz minimum bias (CLC E*W) --- stream 2
    - X GeV (HAD+EM) CALO as previous --- stream 3 (threshold determined by luminosity)
    - Tight CMU-CMP, CMX, IMU --- stream 4
    - 8 GeV EM tower --- stream 5

    ***** and the following using XTRP: ****

    - 4 GeV “electron” (4 GeV EM tower matched to 1.5 GeV XFT)
    - muons with phi match to 1.5 GeV XFT track
    - single track trigger --- all above stream 6
    - Trigger group will add to this table to test triggers:
      - MET-25,SUMET-120,L2 cutting, L2 prescaling w/L1 full-bore...
  - L2, L3 tag as in #2

# A "physics goal" from comm. run

- 1/16" well-known aluminum plate mounted on SVX4 -- Carter Hall
- Collect $\gamma \rightarrow ee$ conversions with EM tower trigger
- Can calibrate the $X_0$ of the COT inner wall -- was a 30 MeV systematic on Run-Ib W Mass
- (Also calo triggers (jets & photons) could be used by QCD/EWK groups to understand energy scales.)

# Summary

- Have three basic trigger tables ready. Expect to use mostly #2 for start of commissioning run.
- Simple tables
- L2 will tag
- L3 will be used to stream datasets
- Thresholds and rates limits can be modified easily to suit conditions
- YKK will talk about special runs
- Should calibrate COT material if all goes well.